CLAIMS

1. A method for enhancement of audio source coding systems using high-frequency reconstruction, where said source coding system comprises an encoder representing all operations performed prior to storage or transmission, and a decoder representing all operations performed after storage or transmission, **characterised by**:

at said encoder, estimating the tonal character of an original signal at a given time, and

at said encoder, estimating the required amount of spectral whitening at a given time, in order to obtain a similar tonal character after HFR in said decoder, given the HFR-method used in said decoder;

transmitting information on said amount of spectral whitening from said encoder to said decoder;

at said decoder, adaptively, spectrally whiten a signal prior to High Frequency Reconstruction (HFR) or after HFR, according to the spectral whitening information obtained from said encoder.

2. A method according to claim 1, **characterised in** that said estimation of the tonal character of the original signal is done for different frequency regions.

3. A method according to claim 1, **characterised in** that said that said estimation of the required amount of spectral whitening is done for different frequency regions.

4. A method according to claim 1, **characterised in** that said spectral whitening is performed in the time domain.

5. A method according to claim 1, **characterised in** that said spectral whitening is performed in a subband filterbank.

6. A method according to claim 1, **characterised in** that said estimation of required amount of spectral whitening is done by comparison of the tonal to noise signal ratios q of different subband signals obtained from subband filtering of said original signal, where said ratios are obtained using linear prediction of said subband signals.

7. A method according to claim 1, **characterised in** that said estimation of required amount of spectral whitening is done by comparison of the tonal to noise signal ratios q of different subband signals obtained from subband filtering of said original signal and a HFR signal, where said ratios are obtained using linear prediction of said subband signals, and said HFR signal is produced in a the same manner as said HFR in said decoder.

8. A method according to claim 1, **characterised in** that the amount of spectral whitening is controlled by the LPC predictor order.

9. A method according to claim 1, **characterised in** that the amount of spectral whitening is controlled by the bandwidth expansion factor of the LPC polynomial.

10. A method according to claim 1, **characterised in** that the amount of spectral whitening is controlled by the blending factor b.

11. A method according to claim 5, **characterised in** that pre-filtering is included in the LPC estimation in order to compensate for the characteristic of the filterbank analysis filters.

12. An apparatus for enhancement of audio source coding systems using high-frequency reconstruction, where said source coding system comprises an encoder representing all operations performed prior to storage or transmission, and a decoder representing all operations performed after storage or transmission, **characterised by:**

at said encoder, means for estimating the tonal character of an original signal at a given time, and

at said encoder, means for estimating the required amount of spectral whitening at a given time, in order to obtain a similar tonal character after HFR in said decoder, given the HFR-method used in said decoder;

at said decoder, means for, adaptively, spectrally whiten a signal prior to High Frequency Reconstruction (HFR) or after HFR, according to the spectral whitening information obtained from said encoder.